3GPP TSG-RAN WG2 Meeting #110-e draftR2-2005733

Electronic 1st – 12th June 2020

Agenda Item: 8.3

Source: Session Chair (Ericsson)

Title: draftReport eMTC breakout session

Document for: Approval

**General**

Recording of voice or video at meetings is not used in 3GPP. This applies also to this e-Meeting. At this e-Meeting, no specific actions are taken to prevent the recording of web conferences. Companies that have concerns related to recordings, if any, may express those by email in the main meeting organizational thread [AT110-e][000]

Please see the following Tdocs for e-meeting guidance:

[R2-2004300](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2004300.zip) Agenda for RAN2#110-e Chairman agenda

[R2-2004462](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2004462.zip) RAN2#110-e Meeting Guidelines ETSI MCC discussion

**Time Schedule**Please refer to the latest schedule in the RAN2 inbox on the public 3GPP servers.

**Access Tools**

*HTTP Upload Tool:*

ETSI IT has created a facility in Inbox and Inbox/Drafts folders on the public 3GPP servers to allow delegates to upload their documents using a web browser (however Internet Explorer is not yet supported). Open your browser and navigate to your chosen folder – for example,

<https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_110-e/Inbox>

Click the green button to log in using your EOL account. A panel will appear in the upper part of the screen and documents may be dragged and dropped onto this landing pad; this causes them to be uploaded to the folder.

*Secure FTP:*

Those e-delegates who prefer to use FTP-like access to our e-meeting Inbox & Draft folders but are concerned by their usernames and passwords being sent unencrypted over the internet, ETSI IT has fitted the server with FTPS (SSL) so delegates can connect from their favourite FTP client using the address: ftps.3gpp.org. Please enter your username and password when prompted.

**Organizational**

* Incoming LSs are noted by default. Contact companies should flag LSs that need to be replied from this meeting.
* Legacy topics will be treated by email only unless indicated explicitly. Please see the list of offline email discussions below.
* Rel-16 (draft) CRs and text proposals will be handled as part of the email discussion on the corresponding CR(s) or the ASN.1 review email discussion if associated with a RIL#.
* All organizational emails and notes will be shared over the following email discussion throughout both meeting weeks:
* [AT110-e][400][eMTC/NB-IoT] Organizational Emre’s session

Scope:

* Share plans for the e-meeting and make announcements
* Share status of email discussions
* Share meeting minutes and agreements for review and endorsement

Deadline: Friday, June 12th 10:00 UTC

Status: Started

**List and Status of Offline Email Discussions**

NOTE: The official kick off date for these email discussions are Monday June 1st at 7:00 UTC. The rapporteurs can share them on the reflector earlier, however companies are not required to participate before the official kick off date. The deadlines refer to the deadline for providing company comments unless stated otherwise.

* [AT110-e][401][eMTC] R15 Relaxed serving cell measurement for UEs using WUS (Qualcomm)

Scope: Check if there is support and update based on the comments if the CRs are agreeable

Intended outcome: Report provided in R2-2005821 and, if agreeable, updated CR(s).

Deadline: Friday, June 5th 10:00 UTC

Status: Started

* [AT110-e][402][eMTC] R15 Clarification for CP EDT (Huawei)

Scope: Check if there is support and update based on the comments if the CRs are agreeable

Intended outcome: Report provided in R2-2005822 and, if agreeable, updated CR(s).

Deadline: Friday, June 5th 10:00 UTC

Status: Started

* [AT110-e][403][eMTC] R15 Porting back corrections made during Rel-16 ASN.1 review (Huawei)

Scope: Check if there is support and update based on the comments if the CRs are agreeable

Intended outcome: Report provided in R2-2005823 and, if agreeable, updated CR.

Deadline: Friday, June 5th 10:00 UTC

Status: Started

* [AT110-e][404][eMTC] R16 36.300 CR (Intel)

Scope: Update the CR based on the agreements from this meeting.

Intended outcome: Agreed CR in R2-2005824

Deadline: Friday, June 12th 10:00 UTC

Status: Not Started

* [AT110-e][405][eMTC] R16 36.304 CR (Nokia)

Scope: Update the CR based on the agreements from this meeting.

Intended outcome: Agreed CR in R2-2005825

Deadline: Friday, June 12th 10:00 UTC

Status: Not Started

* [AT110-e][406][eMTC] R16 36.321 CR (Ericsson)

Scope: Update the CR based on the agreements from this meeting.

Intended outcome: Agreed CR in R2-2005826

Deadline: Friday, June 12th 10:00 UTC

Status: Started

* [AT110-e][407][eMTC] R16 36.331 CR (Qualcomm)

Scope: Update the CR based on the agreements from this meeting.

Intended outcome: Agreed CR in R2-2005827

Deadline: Friday, June 12th 10:00 UTC

Status: Started

* [AT110-e][408][eMTC] R16 36.306 CR (Huawei)

Scope: Update the CR based on the agreements from this meeting.

Intended outcome: Agreed CR in R2-2005828

Deadline: Friday, June 12th 10:00 UTC

Status: Started

* [AT110-e][409][eMTC] R16 RAN1 features list and UE capabilities (Huawei)

Scope: [R2-2005085](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005085.zip)

Intended outcome: Report in R2-2005829

Deadline: Friday, June 5th 10:00 UTC

Status: Started

* [AT110-e][410][eMTC] R16 ASN.1 Review (Qualcomm)

Scope: Remaining RIL issues (TBD)

Intended outcome: Report in R2-2005830

Deadline: Friday, June 5th 10:00 UTC

Status: Started

* [AT110-e][411][eMTC] Text proposal - RSS (Ericsson)

Scope: Check if the text proposal is agreeable and update based on the comments if needed.

Intended outcome: Report provided in R2-2005831, agreed text proposal to be merged in R16 36.331 CR for eMTC.

Deadline: Friday, June 5th 10:00 UTC

Status: Not Started

# 4 EUTRA corrections Rel-15 and earlier

See Appendix A for reference to Work items, work item codes and WIDs.

Only essential corrections. No documents should be submitted to 4. Please submit to 4.x

## 4.2 eMTC corrections Rel-15 and earlier

Documents in this agenda item will be handled in a break out session. Common NB-IoT/eMTC parts treated jointly with 4.1. No web conference is planned for this agenda item

### 4.2.0 In-principle agreed CRs

[R2-2005081](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005081.zip) Adding Reception Type for uplink HARQ ACK feedback for Rel-15 eMTC Huawei, HiSilicon CR Rel-15 36.302 15.2.0 1208 2 F LTE\_eMTC4-Core R2-2003933

[R2-2005082](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005082.zip) Adding Reception Type for uplink HARQ ACK feedback for Rel-15 eMTC Huawei, HiSilicon CR Rel-16 36.302 16.0.0 1210 - A LTE\_eMTC4-Core

* CRs above are agreed.

[R2-2005591](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005591.zip) Correction on reception type combination for eMTC ZTE Corporation, Sanechips, Sequans Communications CR Rel-13 36.302 13.7.0 1204 2 F LTE\_MTCe2\_L1-Core R2-2003937

[R2-2005596](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005596.zip) Correction on reception type combination for eMTC ZTE Corporation, Sanechips, Sequans Communications CR Rel-14 36.302 14.5.0 1205 1 A LTE\_MTCe2\_L1-Core R2-2003190

[R2-2005602](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005602.zip) Correction on reception type combination for eMTC ZTE Corporation, Sanechips, Sequans Communications CR Rel-15 36.302 15.2.0 1206 1 A LTE\_MTCe2\_L1-Core R2-2003222

[R2-2005609](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005609.zip) Correction on reception type combination for eMTC ZTE Corporation, Sanechips, Sequans Communications CR Rel-16 36.302 16.0.0 1207 1 A LTE\_MTCe2\_L1-Core R2-2003228

* CRs above are agreed.

### 4.2.1 Other

[R2-2004627](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2004627.zip) Relaxed serving cell measurement for UEs using WUS Qualcomm Technologies Int CR Rel-15 36.331 15.9.0 4298 - B LTE\_eMTC4-Core

[R2-2004634](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2004634.zip) Relaxed serving cell measurement for UEs using WUS Qualcomm Technologies Int draftCR Rel-16 36.331 16.0.0 F LTE\_eMTC5-Core, LTE\_eMTC4-Core

[R2-2004654](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2004654.zip) [Draft] LS on implementation of relaxed serving cell measurement by Rel-15 UEs Qualcomm Technologies Int LS out Rel-15 LTE\_eMTC4-Core To:RAN4

* [AT110-e][401][eMTC] R15 Relaxed serving cell measurement for UEs using WUS (Qualcomm)

Scope: Check if there is support and update based on the comments if the CRs are agreeable

Intended outcome: Report provided in R2-2005821 and, if agreeable, updated CR(s).

Deadline: Friday, June 5th 10:00 UTC

[R2-2005010](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005010.zip) Clarification for CP EDT Huawei, HiSilicon CR Rel-15 36.304 15.5.0 0793 - F NB\_IOTenh2-Core, LTE\_eMTC4-Core

[R2-2005011](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005011.zip) Clarification for CP EDT Huawei, HiSilicon CR Rel-16 36.304 16.0.0 0794 - A NB\_IOTenh2-Core, LTE\_eMTC4-Core

* [AT110-e][402][eMTC] R15 Clarification for CP EDT (Huawei)

Scope: Check if there is support and update based on the comments if the CRs are agreeable

Intended outcome: Report provided in R2-2005822 and, if agreeable, updated CR(s).

Deadline: Friday, June 5th 10:00 UTC

[R2-2005018](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005018.zip) Porting back corrections made during Rel-16 ASN.1 review Huawei, HiSilicon CR Rel-15 36.331 15.9.0 4303 - F NB\_IOTenh2-Core, LTE\_eMTC4-Core

* [AT110-e][403][eMTC] R15 Porting back corrections made during Rel-16 ASN.1 review (Huawei)

Scope: Check if there is support and update based on the comments if the CRs are agreeable

Intended outcome: Report provided in R2-2005823 and, if agreeable, updated CR.

Deadline: Friday, June 5th 10:00 UTC

# 7 Rel-16 LTE Work Items

Documents in these agenda items will be handled in break out sessions

## 7.1 Additional MTC enhancements for LTE

(LTE\_eMTC5-Core; leading WG: RAN1; REL-16; started: Jun 18; target; June 20; WID: RP-191356; SR: RP-200309)

Time budget: 2.5 TU

Documents in this agenda item will be handled in a break out session.

Some sub-items in 7.1 and 7.2 may be treated jointly.

### 7.1.1 Organisational

Including incoming LSs, rapporteur inputs, running CRs.

A web conference may be used for handling some of the discussions in this AI.

One CR per specification will be provided by the corresponding rapporteur. No individual company CRs are expected. Companies should provide TPs when needed.

[R2-2004323](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2004323.zip) LS on SA WG2 status of MT-EDT in Rel-16 (S2-2003505; contact: Qualcomm) SA2 LS in Rel-16 5G\_CIoT To:SA, RAN2, RAN3, CT1, SA3

* Noted

[R2-2004658](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2004658.zip) Miscellaneous corrections to Rel-16 eMTC enhancements Intel Corporation CR Rel-16 36.300 16.1.0 1281 1 F LTE\_eMTC5-Core R2-2003918

* [AT110-e][404][eMTC] R16 36.300 CR (Intel)

Scope: Update the CR based on the agreements from this meeting.

Intended outcome: Agreed CR in R2-2005824

Deadline: Friday, June 12th 10:00 UTC

[R2-2004918](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2004918.zip) Corrections to WUS group for eMTC Nokia CR Rel-16 36.304 16.0.0 0789 1 F LTE\_eMTC5-Core R2-2003920

* [AT110-e][405][eMTC] R16 36.304 CR (Nokia)

Scope: Update the CR based on the agreements from this meeting.

Intended outcome: Agreed CR in R2-2005825

Deadline: Friday, June 12th 10:00 UTC

[R2-2004628](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2004628.zip) Corrections to MAC for Rel-16 eMTC Ericsson CR Rel-16 36.321 16.0.0 1473 1 F NB\_IOTenh3-Core, LTE\_eMTC5-Core R2-2003922

* [AT110-e][406][eMTC] R16 36.321 CR (Ericsson)

Scope: Update the CR based on the agreements from this meeting.

Intended outcome: Agreed CR in R2-2005826

Deadline: Friday, June 12th 10:00 UTC

[R2-2005205](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005205.zip) Miscellaneous Rel-16 eMTC corrections Qualcomm Incorporated CR Rel-16 36.331 16.0.0 4239 2 F LTE\_eMTC5-Core R2-2003923 Late

* [AT110-e][407][eMTC] R16 36.331 CR (Qualcomm)

Scope: Update the CR based on the agreements from this meeting.

Intended outcome: Agreed CR in R2-2005827

Deadline: Friday, June 12th 10:00 UTC

### 7.1.2 Stand-alone deployment

Including the outcome of [Post109bis-e][945][eMTC] Standalone deployment – Remaining issues (Ericsson). This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting (decision to be made based on the submitted tdocs). A web conference will be used for handling the discussions in this AI.

[R2-2004629](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2004629.zip) Report on Standalone email discussion Ericsson report LTE\_eMTC5-Core Late

Proposal 1 For equal priority inter-frequency and intra-frequency cases, a non-BL UE prioritizes a cell for camping if it can operate in normal coverage in that cell even though there exist a cell with higher ranking where the UE can operate only in enhanced coverage.

* Huawei prefers to keep the existing rules for UE behaviour for this case. Intel and Apple think similarly.
* Sequans thinks it may be good to indicate whether a cell is standalone.
* Huawei thinks the UE would need to know whether a cell is standalone if a non-standalone cell is prioritized over a standalone cell. Ericsson thinks an indication of such may not be necessary.
* Nokia thinks the proposal is rather for cell selection only and thus the indication is not needed.
* Ericsson wonders if the existing rules are kept whether “shall” should be used instead of “may” when captured whether the UE should consider itself in enhanced or normal coverage in a standalone cell.

Proposal 2 For the equal-priority inter-frequency case, discuss whether further clarification is needed for prioritizing a non-standalone cell over a standalone cell if the latter ranks higher and the non-BL UE can operate in normal coverage in the former.

Proposal 3 For intra-frequency case, capture in specifications that a non-BL UE prioritizes a cell for camping if it can operate in normal coverage in that cell.

**Agreements**

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### 7.1.3 Mobility Enhancements

This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting (decision to be made based on the submitted tdocs). A web conference will be used for handling the discussions in this AI.

[R2-2005038](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005038.zip) RSS configuration for UEs in RRC\_CONNECTED ZTE Corporation, Sanechips discussion Rel-16 LTE\_eMTC5-Core

Proposal 1: It’s suggested to introduce RSS configuration for neighbour cells in dedicated signalling for UEs in RRC\_CONNECTED.

Proposal 2: It’s suggested to introduce RSS parameters in MeasObjectEUTRA for providing RSS measurement configuration for UEs in RRC\_CONNECTED.

* QC thinks this is only applicable to intra-frequency measurement and a capability bit is needed.
* Huawei agrees that a cability bit is needed, but not sure about the restriction w r t intra-frequency measurement.

[R2-2005306](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005306.zip) Text Proposal RSS for RSRP Ericsson discussion Rel-16

[R2-2005307](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005307.zip) Text Proposal RSS Configurations for narrowBandIndex and timeoffsetgranularity Ericsson, Sony response Rel-16

* [AT110-e][411][eMTC] Text proposal - RSS (Ericsson)

Scope: Check if the text proposal is agreeable and update based on the comments if needed.

Intended outcome: Report provided in R2-2005831, agreed text proposal to be merged in R16 36.331 CR for eMTC.

Deadline: Friday, June 5th 10:00 UTC

**Agreements**

- Introduce RSS configuration for neighbour cells in dedicated signalling, i.e., for a UE in RRC\_CONNECTED. If absent, UE assumes no RRS configuration in connected mode, i.e., RRS based measurement is not applicable in connected mode.

- Introduce a UE capability bit to indicate support for RRS configuration for neighbour cells in dedicated signalling.

- Introduce RSS parameters in *MeasObjectEUTRA* to provide RSS measurement configuration for UEs in RRC\_CONNECTED.

### 7.1.4 Connection to 5GC

Connection to 5GC for MTC and NB-IoT is treated jointly under this AI. This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting (decision to be made based on the submitted tdocs). A web conference of an offline discussion will be used for handling the discussions in this AI.

[R2-2004630](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2004630.zip) Enabling R16 AS RAI for 5GC Ericsson discussion NB\_IOTenh3-Core, LTE\_eMTC5-Core Revised

[R2-2005675](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005675.zip) Enabling R16 AS RAI for 5GC Ericsson discussion LTE\_eMTC5-Core, NB\_IOTenh3-Core [R2-2004630](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2004630.zip) Late

[R2-2005024](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005024.zip) UP data protection for UP CIoT 5GS Opmitisation Huawei, HiSilicon discussion Rel-16 NB\_IOTenh3-Core, LTE\_eMTC5-Core

Proposal Introduce a flag cipheringDisabled in PDCP-Config-NB to enable activation of ciphering per DRB.

[R2-2004841](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2004841.zip) Early UE capability retrieval enhancements for eMTC/5GC Qualcomm India Pvt Ltd discussion Rel-16 LTE\_eMTC5-Core R2-2002610

[R2-2004862](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2004862.zip) Idle Mode cell reselection based on CN type supported Qualcomm Incorporated, TurkCell, Sony discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core R2-2002609

[R2-2005150](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005150.zip) Mobility enhancements for Connectivity to 5GC for MTC and NB-IoT Sony, Qualcomm discussion Rel-16 NB\_IOTenh3-Core

[R2-2005323](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005323.zip) AS RAI and optimization of release Ericsson, LG Electronics Inc., Sony, Sierra Wireless, Thales, Lenovo, Motorola Mobility, MediaTek Inc., Turkcell discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core R2-2003428

[R2-2005324](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005324.zip) LS on AS RAI and optimization of release Ericsson LS out Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core R2-2003430 To:SA2 Cc:RAN3

**Agreements**

- Introduce a flag *cipheringDisabled* in PDCP-Config-NB to enable activation of ciphering per DRB.

### 7.1.5 UE capabilities – MTC

This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting (decision to be made based on the submitted tdocs). A web conference will be used for handling the discussions in this AI.

[R2-2005080](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005080.zip) Update to UE capabilities for eMTC Huawei, HiSilicon CR Rel-16 36.306 16.0.0 1752 2 F LTE\_eMTC5-Core R2-2003921

* [AT110-e][408][eMTC] R16 36.306 CR (Huawei)

Scope: Update the CR based on the agreements from this meeting.

Intended outcome: Agreed CR in R2-2005828

Deadline: Friday, June 12th 10:00 UTC

[R2-2005085](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005085.zip) RAN1 feature list and UE capabilities issues for eMTC Huawei, HiSilicon discussion Rel-16 LTE\_eMTC5-Core

* [AT110-e][409][eMTC] R16 RAN1 features list and UE capabilities (Huawei)

Scope: [R2-2005085](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005085.zip)

Intended outcome: Report in R2-2005829

Deadline: Friday, June 5th 10:00 UTC

### 7.1.6 ASN.1 review – MTC

Including documents related to class 2/3 ASN.1 review issues that require WI-specific discussion. A web conference will be used for handling the discussions in this AI.

* [AT110-e][410][eMTC] R16 ASN.1 Review (Qualcomm)

Scope: Remaining RIL issues (TBD)

Intended outcome: Report in R2-2005830

Deadline: Friday, June 5th 10:00 UTC

### 7.1.7 Other

Including documents related to MT early data transmission EDT, Scheduling multiple DL/UL transport blocks, Quality report in Msg3, MPDCCH performance improvement using CRS, Improvements for non-BL UEs, Co-existence with NR, and MTC specific issues.

This agenda item may utilize a summary document to facilitate treatment of topics during the e-meeting. A web conference may be used for handling some of the discussions in this AI.